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NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	Jun 03	New e-mail delivery for search results now available
NEWS	4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS	5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS	6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS	7	Sep 03	JAPIO has been reloaded and enhanced
NEWS	8	Sep 16	Experimental properties added to the REGISTRY file
NEWS	9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS	10	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS	11	Oct 24	BEILSTEIN adds new search fields
NEWS	12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS	13	Nov 18	DKILIT has been renamed APOLLIT
NEWS	14	Nov 25	More calculated properties added to REGISTRY
NEWS	15	Dec 04	CSA files on STN
NEWS	16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS	17	Dec 17	TOXCENTER enhanced with additional content
NEWS	18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS	19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS	20	Feb 13	CANCERLIT is no longer being updated
NEWS	21	Feb 24	METADEx enhancements
NEWS	22	Feb 24	PCTGEN now available on STN
NEWS	23	Feb 24	TEMA now available on STN
NEWS	24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS	25	Feb 26	PCTFULL now contains images
NEWS	26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS	27	Mar 20	EVENTLINE will be removed from STN
NEWS	28	Mar 24	PATDPAFULL now available on STN
NEWS	29	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS	30	Apr 11	Display formats in DGENE enhanced
NEWS	31	Apr 14	MEDLINE Reload
NEWS	32	Apr 17	Polymer searching in REGISTRY enhanced
NEWS	33	Jun 13	Indexing from 1947 to 1956 added to records in CA/CAPLUS
NEWS	34	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS	35	Apr 28	RDISCLOSURE now available on STN
NEWS	36	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS	37	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS	38	May 15	Supporter information for ENCOMPAT and ENCOMPLIT updated
NEWS	39	May 16	CHEMREACT will be removed from STN
NEWS	40	May 19	Simultaneous left and right truncation added to WSCA
NEWS	41	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS	42	Jun 06	Simultaneous left and right truncation added to CBNB
NEWS	43	Jun 06	PASCAL enhanced with additional data

NEWS 44 Jun 20 2003 edition of the FSTA Thesaurus is now available  
NEWS 45 Jun 25 HSDB has been reloaded

NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT  
MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),  
AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

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\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 11:24:40 ON 08 JUL 2003

=> file reg

FILE 'REGISTRY' ENTERED AT 11:24:58 ON 08 JUL 2003  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 7 JUL 2003 HIGHEST RN 544408-69-7  
DICTIONARY FILE UPDATES: 7 JUL 2003 HIGHEST RN 544408-69-7

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> s zinc acetate  
133182 ZINC  
442485 ACETATE  
L1 49 ZINC ACETATE  
(ZINC(W)ACETATE)

=> d

L1 ANSWER 1 OF 49 REGISTRY COPYRIGHT 2003 ACS  
RN 444588-53-8 REGISTRY

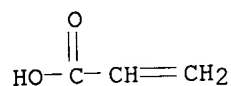
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with zinc diacetate and zinc di-2-propenoate (9CI) (CA INDEX NAME)

OTHER NAMES:

CN **Butyl methacrylate-zinc acetate-zinc acrylate copolymer**  
MF (C8 H14 O2 . C3 H4 O2 . C2 H4 O2 . Zn)x  
CI PMS  
PCT Polyacrylic, Polyother  
SR CA  
LC STN Files: CA, CAPLUS

CM 1

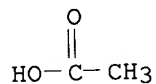
CRN 14643-87-9 (79-10-7)  
CMF C3 H4 O2 . 1/2 Zn



● 1/2 Zn

CM 2

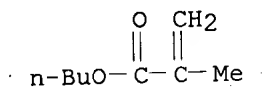
CRN 557-34-6 (64-19-7)  
CMF C2 H4 O2 . 1/2 Zn



● 1/2 Zn

CM 3

CRN 97-88-1  
CMF C8 H14 O2



1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=> s zinc oxide  
133182 ZINC  
558956 OXIDE

L2 17429 ZINC OXIDE  
(ZINC(W)OXIDE)

=> d

L2 ANSWER 1 OF 17429 REGISTRY COPYRIGHT 2003 ACS  
RN 541511-37-9 REGISTRY  
CN **Antimony iron lead zinc oxide (Sb0.54Fe9.97Pb1.3Zn1.19O19) (9CI)**  
(CA INDEX NAME)  
MF Fe . O . Pb . Sb . Zn  
AF Fe9.97 O19 Pb1.3 Sb0.54 Zn1.19  
CI TIS  
SR CA  
LC STN Files: CAPLUS

Component	Ratio	Component Registry Number
O	19	17778-80-2
Zn	1.19	7440-66-6
Sb	0.54	7440-36-0
Pb	1.3	7439-92-1
Fe	9.97	7439-89-6

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=> s zinc oxide/cn  
L3 1 ZINC OXIDE/CN

=> d

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS  
RN 1314-13-2 REGISTRY  
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN **Zinc oxide (8CI)**  
OTHER NAMES:  
CN 503R  
CN 720C  
CN Activox C 80  
CN Actox 14  
CN Actox 16  
CN Actox 216  
CN AEE-Zn 601  
CN Amalox  
CN AZ-SW  
CN AZO  
CN AZO 22  
CN AZO 55  
CN AZO 66  
CN AZO 77  
CN Azo-B  
CN Azodox  
CN Biocide 3000D  
CN BTs 1  
CN BTs 1 (pigment)  
CN C 30  
CN C 30 (oxide)

CN Conductive Zinc Oxide No. 1  
 CN E 017  
 CN Electrox 2500  
 CN Elma 21  
 CN Elma 215  
 CN F 60  
 CN F 60 (antimicrobial)  
 CN FC-MI-W  
 CN Finex 25  
 CN Finex 50  
 CN Finex 50A  
 CN Finex 75  
 CN FINX 75  
 CN Flowers of zinc  
 CN FO 1020A  
 CN FX  
 CN FX (oxide)  
 CN FX-UFZ-D  
 CN GIAP 10  
 CN GinRei  
 CN Green Seal 8  
 CN Hubbuck's White  
 CN K-Fresh MZO  
 CN Kadox 15  
 CN Kadox 25  
 CN Kadox 515  
 CN Kadox 72  
 CN Kadox 911  
 CN Kadox 911C

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for

DR 8011-84-5, 8047-36-7, 8047-69-6, 8050-42-8, 8051-03-4, 56592-00-8,  
 57206-86-7, 185461-95-4

MF O Zn

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS,  
 BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,  
 CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU,  
 DETHERM\*, DIOGENES, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,  
 ENCOMPPAT, ENCOMPPAT2, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE,  
 MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, TOXCENTER,  
 TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

O=Zn

63420 REFERENCES IN FILE CA (1957 TO DATE)  
 675 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 63518 REFERENCES IN FILE CAPLUS (1957 TO DATE)  
 2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

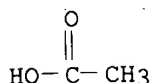
=>

=> s zinc acetate/cn

L4 1 ZINC ACETATE/CN

=> d

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS  
RN 557-34-6 REGISTRY  
CN Acetic acid, zinc salt (8CI, 9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN **Zinc acetate (6CI, 7CI)**  
OTHER NAMES:  
CN Galzin  
CN Siltex CL 4  
CN Zinc diacetate  
CN Zinc(II) acetate  
DR 128514-83-0, 131853-00-4  
MF C2 H4 O2 . 1/2 Zn  
CI COM  
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOBUSINESS,  
BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,  
CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DIOGENES, DRUGU, EMBASE,  
ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB,  
IFIPAT, IFIUDB, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, RTECS\*,  
SPECINFO, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU, VTB  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)  
CRN (64-19-7)



● 1/2 Zn

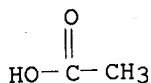
4882 REFERENCES IN FILE CA (1957 TO DATE)  
132 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
4891 REFERENCES IN FILE CAPLUS (1957 TO DATE)  
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> s zinc acetate dihydrate/cn  
L5 1 ZINC ACETATE DIHYDRATE/CN

=> d

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS  
RN 5970-45-6 REGISTRY  
CN Acetic acid, zinc salt, dihydrate (8CI, 9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN **Zinc acetate dihydrate**  
CN Zinc diacetate dihydrate  
DR 56368-38-8  
MF C2 H4 O2 . H2 O . 1/2 Zn  
LC STN Files: AGRICOLA, BEILSTEIN\*, BIOBUSINESS, CA, CANCERLIT, CAPLUS,  
CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DETHERM\*, GMELIN\*,

HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, NIOSHTIC, PHAR,  
PIRA, RTECS\*, TOXCENTER, ULIDAT, USAN, USPATFULL  
(\*File contains numerically searchable property data)  
CRN (64-19-7)



● H<sub>2</sub>O

● 1/2 Zn

328 REFERENCES IN FILE CA (1957 TO DATE)  
8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
331 REFERENCES IN FILE CAPLUS (1957 TO DATE)

=> file ca

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FILE COVERS 1907 - 3 Jul 2003 VOL 139 ISS 2  
FILE LAST UPDATED: 3 Jul 2003 (20030703/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE 'CA' ENTERED AT 11:27:35 ON 08 JUL 2003

=> s 13

L6 63422 L3

=> s 14 or 15

4883 L4

328 L5

L7 5170 L4 OR L5

=> s 16 and 17  
L8 814 L6 AND L7

=> s colloid  
L9 41322 COLLOID

=> s 18 and 19  
L10 7 L8 AND L9

=> d bib,ab 1-7

L10 ANSWER 1 OF 7 CA COPYRIGHT 2003 ACS  
AN 135:202213 CA  
TI Stable photoluminescence of zinc oxide quantum dots in silica  
nanoparticles matrix prepared by the combined sol-gel and spray drying  
method  
AU Mikrajuddin; Iskandar, F.; Okuyama, K.; Shi, F. G.  
CS Department of Chemical Engineering, Hiroshima University, Kagamiyama,  
Higashi-Hiroshima, 739-8527, Japan  
SO Journal of Applied Physics (2001), 89(11, Pt. 1), 6431-6434  
CODEN: JAPIAU; ISSN: 0021-8979  
PB American Institute of Physics  
DT Journal  
LA English  
AB A sol-gel method was employed to produce a Zn oxide (ZnO) **colloid**  
consisting of ZnO nanocryst. particles with an av. diam. of .apprx.3 nm,  
and subsequently mixed with a SiO2 (SiO2) **colloid**. The mixt.  
was finally spray dried to form a powder nanocomposite. The green  
photoluminescence (PL) exhibited by the composite was very stable: the  
intensity, position, and shape do not change even after being aged over 30  
days. Thus, the ZnO/SiO2 nanocomposite has a much improved PL stability  
over ZnO colloids, which is often found to undergo a significant red shift  
even after aging over a few days. The authors' results are expected to  
have significant technol. implications.  
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 7 CA COPYRIGHT 2003 ACS  
AN 134:244448 CA  
TI Preparation and Optical properties of nano-sized ZnO colloidal particles  
using NH3 gas as volatile catalyst  
AU Sakohara, Shuji; Honda, Sanae; Yanai, Yutaka; Anderson, Marc A.  
CS Department of Chemical Engineering, Hiroshima University,  
Higashi-Hiroshima, 739-8527, Japan  
SO Journal of Chemical Engineering of Japan (2001), 34(1), 15-21  
CODEN: JCEJAO; ISSN: 0021-9592  
PB Society of Chemical Engineers, Japan  
DT Journal  
LA English  
AB Nano-sized Zn oxide (ZnO) colloids were prepd. by hydrolyzing Zn acetate  
soln. with NH3 (NH3) gas as a volatile catalyst, instead of metal  
hydroxides such as NaOH and LiOH, which were used previously. The  
procedure consists of two major steps: (1) prepg. the precursor by  
reacting Zn acetate with EtOH, and (2) hydrolyzing the precursor to form  
the **colloid**. Hydrolysis was performed by bubbling the desired  
compn. of NH3-N2 gas mixt. into the precursor for the desired time in an  
ultrasonic bath. The hydrolysis conditions required for forming ZnO  
colloids such as the compn. of the NH3-N2 gas mixt. and bubbling times  
were examd. In addn., optical properties such as luminescence and  
absorption of these ZnO colloids produced via this basic hydrolysis



procedure, and the effect of the residual  $\text{NH}_3$  in the suspension on colloidal stability were examd. A crit. amt. of dissolved  $\text{NH}_3$  to form nano-sized  $\text{ZnO}$  particles is existent, and the luminescence intensity largely depends on the gas compn. and the bubbling time. Residual  $\text{NH}_3$  remaining in the suspension greatly affects colloidal stability. But, it could be easily removed by evapg. EtOH of the solvent under reduced pressure. The resulting  $\text{ZnO}$  powder could be re-dispersed quickly and completely into EtOH. The luminescence and absorption properties of the re-dispersed colloidal suspension were almost the same as those of the original suspension. Also, the re-dispersed  $\text{ZnO}$  suspension was absolutely transparent for more than one month at room temp. The colloidal stability is remarkably improved.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 7 CA COPYRIGHT 2003 ACS

AN 130:57617 CA

TI Visible Luminescence and Surface Properties of Nanosized  $\text{ZnO}$  Colloids  
Prepared by Hydrolyzing Zinc Acetate

AU Sakohara, Shuji; Ishida, Masahiro; Anderson, Marc A.

CS Department of Chemical Engineering, Hiroshima University,  
Higashi-Hiroshima, 739, Japan

SO Journal of Physical Chemistry B (1998), 102(50), 10169-10175  
CODEN: JPCBFK; ISSN: 1089-5647

PB American Chemical Society

DT Journal

LA English

AB Luminescence properties of nanosized  $\text{Zn}$  oxide ( $\text{ZnO}$ ) colloids greatly depend on their surface properties. These surface properties in turn are largely detd. by the method of prepn. The procedure for producing  $\text{ZnO}$  colloids consists of 2 major steps: (1) prepg. the precursor by reacting  $\text{Zn}$  acetate with EtOH and (2) hydrolyzing the precursor to form the **colloid** by using  $\text{LiOH}$ . The sample colloids in this study were prepd. by hydrolyzing  $\text{Zn}$  acetate precursors contg. various concns. of  $\text{Zn}^{2+}$  with different concns. of  $\text{LiOH}$ . The luminescence properties were evaluated by the energy difference,  $\Delta E$ , between the band gap and the emission energy which were obtained from the onset of the absorption spectrum and the peak wavelength of the emission spectrum, resp. The surface properties of  $\text{ZnO}$  particles were studied using thermal gravimetric and IR techniques.  $\text{ZnO}$  particles produced via these procedures are not pure but have acetate ( $\text{AcO}^-$ ) groups on their surface. These groups originate from the reagent,  $\text{Zn}$  acetate. These acetate groups consist of a mixt. of unidentate, chelate, and bridging type structures. The amt. and structure of the acetate groups depend on the concns. of  $\text{Zn}^{2+}$  in the precursors and the amt. of  $\text{LiOH}$  used to hydrolyze these precursors. The luminescence properties,  $\Delta E$ , also changed with the concns. of  $\text{Zn}^{2+}$  and  $\text{LiOH}$ . Results, however, could be normalized to the concn. ratio of  $\text{Zn}$  acetate to  $\text{LiOH}$ ,  $\text{ZnAc/LiOH}$ . The amt. of acetate groups on the  $\text{ZnO}$  particles prepd. at the same concn. ratio of  $\text{ZnAc/LiOH}$  were the same, and the IR spectra were also coincident with each other. Also, the visible luminescence properties,  $\Delta E$ , are also the same, for the  $\text{ZnO}$  colloids prepd. at the same concn. ratio of  $\text{ZnAc/LiOH}$ , and increased with increasing ratios. Probably the visible luminescence properties of  $\text{ZnO}$  particles depend on their surface properties which are in turn detd. by the concn. ratio of  $\text{ZnAc/LiOH}$ .

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 7 CA COPYRIGHT 2003 ACS

AN 129:296721 CA

TI From ZnO colloids to nanocrystalline highly conductive films  
 AU Hilgendorff, M.; Spanhel, L.; Rothenhausler, Ch.; Muller, G.  
 CS University of Wurzburg, Department of Chemistry and Pharmacy, Lehrstuhl  
 fur Silicatchemie, Wurzburg, 97070, Germany  
 SO Journal of the Electrochemical Society (1998), 145(10), 3632-3637  
 CODEN: JESOAN; ISSN: 0013-4651  
 PB Electrochemical Society  
 DT Journal  
 LA English  
 AB Base-catalyzed hydrolysis and condensation of zinc acetate dihydrate in  
 alc. environments yields highly concd. ZnO colloids with molarities near 3  
 M (50-70 wt. % solid content) and particle sizes between 3 and 6 nm.  
 These solns. were optimized to be stable against coagulation for several  
 months and to yield optically transparent 0.8-2 .mu.m thick films of  
 variable electronic cond. in a single coating step. 2 Atom % Al3+ or  
 In3+, if present in these nanoporous air-sintered layers, produce a high  
 free-carrier concn. of about 6 .times. 1019 cm-3 without noticeable  
 changes in sheet resistance Rsh > 106 .OMEGA. .box.-1, whereas sintering  
 under vacuum or N2/H2 (90/10)-atm. results in Rsh values around 150  
 .OMEGA. .box.-1. Furthermore, infiltration of small ZnO clusters into the  
 porous films increases the refractive index from 1.8 to 2.2 and  
 substantially lowers Rsh to values of about 20 .OMEGA. .box.-1. From Hall  
 measurements, the charge-carrier concn. has been detd. to be 2 .times.  
 1020 cm-3 and the corresponding electron mobility approaches values of  
 about 9 cm2/V s. Electron microscopic investigations revealed that the  
 ZnO/Al crystallites have a typical size of 10 .+- . 2 nm and are  
 preferentially oriented with their (100) planes parallel to the substrate.  
 Taking into account a preferential (002) orientation in phys. deposited  
 highly conductive ZnO/Al films, it appears that the chem. control of  
 nanocrystallite boundaries is more decisive than their orientation within  
 the films.

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 7 CA COPYRIGHT 2003 ACS  
 AN 128:298175 CA  
 TI Process for coating of metal oxide on microbodies  
 IN Ito, Seishiro; Hagino, Seiji; Nankyo, Keishi  
 PA Nippon Aluminium Mfg. Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10081975	A2	19980331	JP 1996-255546	19960904
PRAI	JP 1996-255546		19960904		

AB The process involves (1) dissolving a metal salt in a polar org. solvent,  
 (2) adding microbodies (e.g., org. polymer or inorg.) with functional  
 groups on their surfaces to the soln., (3) dropwise adding a OH--contg.  
 org. solvent to the soln., and (4) refluxing the soln. (by heating). The  
 steps (3) and (4) may be simultaneously done. The process may be repeated  
 to give .gtoreq.2 coatings of different metal oxides. The simple process  
 with a simple app. gives a uniform coating, the thickness of which can be  
 easily controlled.

L10 ANSWER 6 OF 7 CA COPYRIGHT 2003 ACS  
 AN 120:333585 CA  
 TI Size-dependent redox potentials of quantized zinc oxide measured with an

optically transparent thin layer electrode  
 AU Hoyer, P.; Weller, H.  
 CS Hahn-Meitner-Institut, Department of Small Particle Research Glienicke  
 Strasse 100, Berlin, D-14109, Germany  
 SO Chemical Physics Letters (1994), 221(5-6), 379-84  
 CODEN: CHPLBC; ISSN: 0009-2614  
 DT Journal  
 LA English  
 AB The authors investigated spectroelectrochem. of quantum sized zinc oxide  
 colloids of different sizes. The electron injection occurs from the metal  
 electrode into the quantized states of the small particles. The measured  
 size-dependent redox potentials are in accordance with quantum mech.  
 particle-in-a-box calcns. Furthermore, the spectral changes occurring  
 upon redn. of the particles are discussed and compared to the no. of  
 electrons stored.

L10 ANSWER 7 OF 7 CA COPYRIGHT 2003 ACS  
 AN 113:220933 CA  
 TI Phosphors and method for treating the surface thereof  
 IN Tono, Hideo; Miyazaki, Tomohiro  
 PA Kasei Optonix, Ltd., Japan  
 SO Eur. Pat. Appl., 18 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 372560	A2	19900613	EP 1989-122598	19891207
	EP 372560	A3	19900822		
	EP 372560	B1	19950308		
	R: DE, GB, IT, NL				
	JP 02155983	A2	19900615	JP 1988-310648	19881208
	JP 2525656	B2	19960821		
	US 5126204	A	19920630	US 1989-446669	19891206
	CA 2004844	AA	19900608	CA 1989-2004844	19891207
	IN 173585	A	19940611	IN 1989-CA1017	19891208
	US 5167990	A	19921201	US 1991-784708	19911030
PRAI	JP 1988-310648		19881208		
	US 1989-446669		19891206		

AB Phosphors are described which are provided with a coating of ZnO formed in  
 a suspension of the phosphor; the phosphors may addnl. comprise a material  
 used to stabilize the attachment of the ZnO. Methods for prepg. the  
 phosphors comprise a surface treatment process which entails maintaining a  
 suspension of the phosphor which contains Zn ions at a predetd. temp. and  
 adding an alk. soln. to the suspension to adjust the pH and induce  
 formation of a ZnO **colloid** from which ZnO is attached to the  
 phosphor particle surfaces.

=> s gel  
 L11 414304 GEL

=> s 16 and 111  
 L12 1283 L6 AND L11

=> s 19 and 112  
 L13 8 L9 AND L12

=> s 113 not 110  
 L14 7 L13 NOT L10

=> d bib,ab 1-7

L14 ANSWER 1 OF 7 CA COPYRIGHT 2003 ACS

AN 136:221507 CA

TI Personal care compositions containing adhesive elastomeric polymer and inorganic **colloid**

IN Alwattari, Ali Abdelaziz

PA The Procter & Gamble Company, USA

SO PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002015873	A2	20020228	WO 2001-US26233	20010822
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2001085201	A5	20020304	AU 2001-85201	20010822
PRAI	US 2000-643491	A	20000822		
	WO 2001-US26233	W	20010822		
AB	Compsns. contg. a film-forming inorg. <b>colloid</b> and an adhesive elastomeric polymer for modifying the appearance of skin and/or hair are described. The compsns. contain (i) about 0.1-60% of a film-forming inorg. <b>colloid</b> , such as silica, boehmite alumina, zirconium dioxide, zirconium polyanions, boron nitride, nickel hydroxide, nickel acetate, zinc hydroxide, and titanium dioxide, (ii) about 0.1-70% of an adhesive elastomeric polymer, e.g., styrene-isoprene elastomers, styrene-butadiene elastomers, styrene-ethylene/propylene-styrene elastomers, styrene-ethylene/butylene-styrene elastomers, terminal hydroxylated polyethylene/butylene elastomers, ethylene-propylene elastomers, polystyrene-co-polyethylene-propylene elastomers, styrene-acrylate elastomer, silicone elastomer, acrylic acid ester elastomer, etc., and (iii) about 10-99.8% of a dermatol. acceptable carrier, such as a diluent selected from water, aliph. hydrocarbons, aliph. alcs., silicones, ketones, esters, alcs., glycols, glycol ethers, and arom. hydrocarbons. The compn. is in a form of facial skin cosmetic, eye cosmetic, lip cosmetic, scalp hair styling aid, facial hair styling aid, moisturizer, wrinkle soothing serum, lotion, mascara, skin facial mask, eye <b>gel</b> , eye cream, lip <b>gel</b> , lip cream, cosmetic and foundation. The compn. further comprises a skin care active selected from retinoids, vitamin B3 compds., vitamin E compds., panthenol, titanium dioxide, and salicylic acid. For example, a skin serum contained colloidal silica 10%, styrene-acrylate copolymer 10%, petrolatum 5%, water 70%, and ethylene-acrylate available as EA209 pigment powder beads 5%. After application to the skin, an excellent, aesthetically-pleasing wrinkle-reducing effect of the compn. was obtained.				

L14 ANSWER 2 OF 7 CA COPYRIGHT 2003 ACS

AN 134:104718 CA

TI Preparation of ceramic green body by reaction induced sol-gel

process  
 IN Zhang, Zhaoquan; Jiang, Dongliang; Tan, Shouhong  
 PA Shanghai Inst. of Ceramic Chemistry & Technology, Chinese Academy of  
 Sciences, Peop. Rep. China  
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 13 pp.  
 CODEN: CNXXEV  
 DT Patent  
 LA Chinese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1257851	A	20000628	CN 1999-125696	19991222
	CN 1092170	B	20021009		
PRAI	CN 1999-125696		19991222		

AB The process comprises prepg. slurry being stable at pH <4 or pH >8.5, adding 0.5-10 wt.% silica **colloid** or silicate soln., and regulating with curing agent to pH 4-8, where dispersing agent and binder can be added. Preferably, the silica **colloid** or silicate soln. is introduced by hydrolyzing tetra-Et orthosilicate or other orgs., or by dissolving and hydrolyzing SiC or Si<sub>3</sub>N<sub>4</sub>; the curing agent is Si<sub>3</sub>N<sub>4</sub>, AlN, Mg<sub>3</sub>N<sub>2</sub>, MgCO<sub>3</sub>, ZnO, urea, carboxylic ester, or lactone; 0.1-5 wt.% dispersing agent, such as polyacrylate, polymethacrylate, citric acid, or 2,3,4-trihydroxybenzoic acid, is added; and the binder is the latex of polyethylene glycol, polyacrylonitrile, polyacrylic acid, polymethacrylic acid, polyacrylamide, Poly-methacrylamide, styrene-butadiene copolymer, Al<sub>2</sub>O<sub>3</sub>, or ZrO<sub>2</sub>, and its addn. is 0.5-10 wt.%. The obtained green body has high strength.

L14 ANSWER 3 OF 7 CA COPYRIGHT 2003 ACS

AN 133:114019 CA

TI Effect of trace water on the property of ZnO **colloid**

AU Wang, Senlin; Lu, Xuerong

CS Coll. Chem. Eng., Huaqiao Univ., Quanzhou, 362011, Peop. Rep. China

SO Huaqiao Daxue Xuebao, Ziran Kexueban (2000), 21(2), 149-152

CODEN: HDZIEF; ISSN: 1000-5013

PB Huaqiao Daxue

DT Journal

LA Chinese

AB Taking methanol as solvent, the authors prepd. ZnO **colloid** by sol-gel method under the condition of excessive Zn<sup>2+</sup>. The effect of trace water addn. on the particle diam. and property of ZnO **colloid** is discussed. As shown by the results, the more water addn. during the process of prepn., the larger the particle diam. of ZnO **colloid**. Consequently, water addn. is able to control the size of colloidal particle; and water addn. will influence properties of ZnO **colloid** such as pH value, absorption spectrum and fluorescence spectrum. A discussion is devoted to mechanism of fluorescence emergence and to effect of water addn. on intensity of fluorescence. Water addn. is found to be important for avoiding photoproduced hole and photoproduced electron recombination.

L14 ANSWER 4 OF 7 CA COPYRIGHT 2003 ACS

AN 114:172136 CA

TI Semiconductor clusters in the sol-gel process: quantized aggregation, gelation, and crystal growth in concentrated zinc oxide colloids

AU Spanhel, Lubomir; Anderson, Marc A.

CS Water Chem. Program, Univ. Wisconsin, Madison, WI, 53706, USA

SO Journal of the American Chemical Society (1991), 113(8), 2826-33

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

AB A new synthesis of ZnO wurtzite clusters (crystallite sizes 3-6 nm) is presented. This novel approach, employing ultrasound, allows one to produce relatively highly concd. 0.1 M Q-ZnO colloids within a few minutes. These stabilizer-free colloids remain in a dispersed state for weeks. They can be concd. further into stable syruplike liqs. (molarities of .apprx.1 M). Under the extreme concn. conditions (10 M Q-ZnO colloids) employed, ZnO alcogels are formed, and self-induced crystal growth occurs in the alcogels (sizes ranging between 1 and 5 mm). Furthermore, the small crystallites can be cast on porous or nonporous supports and fired to obtain ZnO ceramic membranes and thin films. All ZnO materials investigated were colorless and did not opalesce, while they exhibited a bright luminescence when exposed to UV light. Progressive concg. from dil. sols to the compact crystal state produced structured luminescence excitation spectra with magic max. ranging between 250 and 400 nm. In dil. suspensions, excitonic transitions in "primary" clusters can be obsd. In concd. suspensions, addnl. excitonic levels appear, attributed to the appearance of primary cluster aggregates. Gelation and crystal growth produce further excitonic levels. This process is explained as a growth of secondary cluster aggregates. One can destroy the crystals in an ultrasound field followed by diln. of the alcogels until the original spectroscopic properties from primary clusters are restored. An electronic correlation diagram and crystal growth mechanism, both based on aggregation, are proposed.

L14 ANSWER 5 OF 7 CA COPYRIGHT 2003 ACS

AN 98:220740 CA

TI Ceramic colors based on colloidal gold

IN Andreica, Victoria; Tinis, Viorica

PA Institutul de Cercetari pentru Industria Sticlei si Ceramicii Fine, Rom.

SO Rom., 3 pp.

CODEN: RUXXA3

DT Patent

LA Romanian

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RO 64442	B	19790115	RO 1974-78592	19740427
PRAI	RO 1974-78592		19740427		

AB Pink, purple, and violet colors were prepd. by blending ceramic base (contg. PbO 29-45, SiO<sub>2</sub> 10-35, B<sub>2</sub>O<sub>3</sub> 5-26, Na<sub>2</sub>O 3-6, and ZnO 0-2%), Ag<sub>2</sub>CO<sub>3</sub> or Ag<sub>2</sub>O, and colloidal Au obtained by treatment of a HCl soln. of AuCl<sub>3</sub>, SnCl<sub>2</sub>, and SnCl<sub>4</sub>. Thus, 50 mL 20% AuCl<sub>3</sub> was dild. with 2 L H<sub>2</sub>O and the soln. was mixed with a soln. of 100 g Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> in 5.1 L H<sub>2</sub>O. A 2nd soln. was prepd. by mixing a soln. of 20 g SnCl<sub>2</sub> in 10 mL 37% HCl and a soln. of 80 g SnCl<sub>4</sub>.5H<sub>2</sub>O in 40 mL 37% HCl. The 2nd and 1st solns. were blended and 190 mL 28% NH<sub>4</sub>OH was added to the blend before dissolving with 100 L H<sub>2</sub>O. The mixt. was settled to sep. a gel ppt. which was then washed with H<sub>2</sub>O to neutral pH. The ppt. was used to obtain purple or violet color by mixing with a ceramic base contg. Pb<sub>3</sub>O<sub>4</sub> 43.5, SiO<sub>2</sub> 10, H<sub>3</sub>BO<sub>3</sub> 25, borax 20, and ZnO 1.5%. A purple color was obtained by blending the ppt. with Ag<sub>2</sub>CO<sub>3</sub> and ceramic base, grinding the blend, and calcining it at 600-650.degree.. A violet color was obtained in the same way but without addn. of Ag<sub>2</sub>O.

L14 ANSWER 6 OF 7 CA COPYRIGHT 2003 ACS

AN 92:207156 CA

TI Oil-containing microcapsules

IN Okimoto, Tomoyuki; Shiozaki, Tomoharu

PA Kanzaki Paper Mfg. Co., Ltd., Japan  
 SO Ger. Offen., 36 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2929843	A1	19800207	DE 1979-2929843	19790723
	JP 55015671	A2	19800202	JP 1978-89595	19780722
	FR 2431323	A2	19800215	FR 1979-18861	19790720
	FR 2431323	B2	19840113		
	GB 2029791	A	19800326	GB 1979-25480	19790720
PRAI	JP 1978-89595		19780722		

AB A process for prepn. of oil-contg. microcapsules consists of: (1) prepn. of an aq. system contg. .gtoreq.2 types of hydrophilic **colloid** with opposite elec. charge in which oil droplets composed of .gtoreq.1 multivalent isocyanate are dispersed; (2) coacervation of the aq. system at a temp. greater than the **gel** point of the hydrophilic **colloid** to form a suspension of coacervate-coated oil drops; and (3) cooling the coacervate suspension to a temp. less than the **gel** point of the hydrophilic **colloid** while regulating the aggregation of the particles by stirring so that multinuclear microcapsules with av. diam. 3-20 .mu. are formed. Thus, an oil soln. was prepd. by dissolving Crystal Violet lactone 3 and Benzoylleucomethylene blue 1 in kerosine 90 parts and adding to this mixt. a soln. prepd. by dissolving Coronate L (an adduct of trimethylolpropane with tolylene diisocyanate) 20 in di-Me phthalate 10 parts. An acid-treated gelatin (isoelec. point 8) 20 was dissolved in H2O 130 parts and cooled to 35.degree.. This gelatin soln. was added to the oil soln. and the mixt. was emulsified to give mononuclear capsules with av. particle size 2.8 .mu.m. The system thus obtained was poured into a stirrer provided with cooling, warm H2O (55.degree.) 100 parts was added, and the system was stirred at 300 rpm. The pH was adjusted to 5.4 and a 3% aq. soln. of CM-cellulose (av. d.p. 160, etherification degree 0.75) 75 and warm H2O (55.degree.) 400 parts were added. The system was cooled under the following conditions:  $2a/D = 0.75$ ,  $SP/ST = 0.24$ ,  $n = 100$ , where  $D$  = the max. inner diam. of the app.,  $a$  = the max. radius of the revolution of the stirrer,  $ST$  = the max. area of the vertical cross section of the coacervate suspension,  $SP$  = the max. area of the vertical cross section of the vol. swept by the stirrer blade, and  $n$  = the stirrer rpm. The temp. was lowered from 55.degree. at 1.degree./min. Adhesion between the capsules was initiated by lowering the liq. temp. and was essentially complete at .apprx.20.degree.. The temp. was lowered to 10.degree. which is below the **gel** point of gelatin. Subsequently the particle size of the multinuclear capsules was detd. to be 9.9 .mu.m and the vol. % of the particles 84%. To this system was added a 50% aq. soln. of glutaraldehyde 1 part/10 parts gelatin at 10.degree. and the pH was adjusted to 7.0 to complete the hardening of the capsules. To this fluid contg. the hardened capsules was added pulp powder 30 parts/100 parts oily nuclear material to give a coating compn. This compn. was coated on paper (40 g/m2) to give a coating of 5 g/m2 (dry). The capsule-coated side of the sheet was placed on an acceptor sheet of paper which was coated (6g/m2 dry) with a compn. made from a finely divided mixt. of Zn 3,5-bis(.alpha.-methylbenzyl)salicylate 8 and styrene-.alpha.-methylstyrene copolymer 2 parts, to 12 parts of which was added Al(OH)3 53, active alumina 20, ZnO 15, styrene-butadiene copolymer latex (50% solids) 30, 10% aq. soln. of modified poly(vinyl alc.) 6, and H2O 300 parts. The sheets were tested for color formation capacity, smudging or soiling under pressure of 14.7 bar for 30 s at room temp. and atm.

moisture, and color fading by moisture at 50.degree. for 100 h at 90% humidity and the results were: 0.75, 0.09, and 0.05, resp., vs. 0.70, 0.14, and 0.06, resp., for a control sheet with a coating prepd. by mixing the above oil soln. with a soln. of poly(vinyl alc.) 6 and H2O 140 parts.

L14 ANSWER 7 OF 7 CA COPYRIGHT 2003 ACS

AN 50:88769 CA

OREF 50:16635c-i,16636a

TI Corrosion and stabilization of powdered metals. IV. Stabilization of metallic powders

AU Levin, A. I.; Pomosov, A. V.; Kolevatova, V. S.; Gurevich, I. E.; Ukshe, E. A.; Rogetkina, T. N.

SO Ural. Politekh. Inst. im. Kirova, Korroziya i Metallopokritiya, Sbornik Statei (1953), (No. 43), 138-73

DT Journal

LA Unavailable

AB Influence of electrodeposition conditions and of post-treatments on the granulometric compn., bulk vol., and other characteristics of metal powders was investigated. Cu powder was prepd. by electrodeposition from CuSO4-H2SO4 soln. Increase in the bath temp. to 55-60.degree. increased the dispersity (I) of the powder. Acid concn. had little influence on I. Increase in Cu concn. decreased I. Increase in c.d. increased I but decreased the bulk vol. When the powder was removed from the cathode periodically, longer periods caused lower current efficiency, but content of fine fractions went through a max. and then decreased with further prolongation of the periods. If the anode was of unrefined Cu, I was higher. Cl-, S-, SCN-, and I- contaminations had similar effect. From possible mechanisms which might account for changes in I, cation exhaustion in the vicinity of the cathode could explain the observed effects most consistently, and could account for changes both in limiting c.d. as well as I. To protect powders from atm. corrosion in storage, stabilization by hydrophobization was considered as the most practical method. Corrosion rates (II), contact angles, capillary rise of H2O in powders, and a qual. evaluation of wetting with H2O were used as criteria of hydrophobization. Flotation agents, such as thiocresol, amyl xanthate, and (EtO)2PS(SNa), had little effect. Most effective agents were fatty acid soaps, and benzoic, hydroxybenzoic, and anthranilic acids. II of Cu powder were decreased by a factor of 50-70 by soaking in 0.05-0.1% Na soap soln., and were stored for 3 years without visible deterioration. II vs. soap concn. curves were reminiscent of Langmuir's isotherms, exhibiting satn. effects. Nonwettability with H2O followed a similar pattern. Contact angles with hydrophobic powders were more neg. than those on pure paraffin; this was explained by hysteresis effects, which are much stronger on powders. Presence of insol. (Ca) soaps caused caking of the powders. Hydrophobized powders were easily wet by soap and saponin solns. The hydrophobic films could not be removed by repeated washing with distd. H2O at 80.degree., indicating strong chemisorption. Al, Zn, Ni, Fe, Fe oxide, ZnO, TiO2, PbO, Pb3O4, Fe and Cu sulfides, basic Pb carbonate, and other powders could be stabilized in similar manner. Stabilized powders reacted with 10% H2SO4 or NaOH only slowly, with an incubation period, or not at all. Stabilized (hydrophobized) powders made finer by energetic passage through sieves did not lose their corrosion resistance, indicating polymol. thickness of adsorbed films and their ability to spread laterally. Post-treatment of powders with Na soap soln. caused further dispersion of powders, apparently by splitting the dendrites in the weak spots, by a mechanism of two-dimensional pressure in the adsorbed film. The splitting was more pronounced in the cases of finer dendrites, e.g. in powders prepd. in presence of Cl- in the sulfate bath. Liquid soaps such as K oleate or K-rosin soap stabilized Cu powder against corrosion, but produced only slight splitting (dispersion). Mixt. of 1:1 of household



soap and saponin stabilized Cu against corrosion, but had no dispersing activity: such powders retained their microscopic fernlike structure in hydrophobization. The observed differences between Na and K soaps are explained by a better cohesion of amorphous adsorbed K soap layers and resulting strengthening of the dendrites. The cohesive action is much weaker with the cryst. Na soaps. Saponin acts as a **colloid** stabilizer, and transforms the adsorbed Na soap layers into **gel** layers capable of better cohesion. The difference in action of Na and K soaps indicates that the active adsorbed species is soap, and not the acid radical.

=> d his

(FILE 'HOME' ENTERED AT 11:24:40 ON 08 JUL 2003)

FILE 'REGISTRY' ENTERED AT 11:24:58 ON 08 JUL 2003

L1	49 S ZINC ACETATE
L2	17429 S ZINC OXIDE
L3	1 S ZINC OXIDE/CN
L4	1 S ZINC ACETATE/CN
L5	1 S ZINC ACETATE DIHYDRATE/CN

FILE 'CA' ENTERED AT 11:27:35 ON 08 JUL 2003

L6	63422 S L3
L7	5170 S L4 OR L5
L8	814 S L6 AND L7
L9	41322 S COLLOID
L10	7 S L8 AND L9
L11	414304 S GEL
L12	1283 S L6 AND L11
L13	8 S L9 AND L12
L14	7 S L13 NOT L10

FILE 'HOME' ENTERED AT 11:36:10 ON 08 JUL 2003

FILE 'CA' ENTERED AT 11:38:24 ON 08 JUL 2003

L15	11812 S TETRAMETHYLAMMONIUM
L16	2 S L12 AND L15
L17	437057 S KOH OR NAOH
L18	47 S L12 AND L17
L19	657 S EXCESS(3A)ZINC
L20	0 S L18 AND L19
L21	47 S L11 AND L18
L22	4648 S PRECIPITATE
L23	0 S L18 AND L22
L24	68444 S PRECIPITAT###
L25	0 S L18 AND L24